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**2010 Oregon Manufactured Dwelling Installation  
Specialty Code (MDISC)****Sections 2-1.3 and 3-2.4****2008 Oregon Residential Specialty Code (ORSC)****Section R324**

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**Code Section:** 2010 MDISC Section 2-1.3 & 3-2.4  
2008 ORSC Section R324

**Code Edition:** 2010 MDISC  
2008 ORSC

**Date:** Effective January 1, 2011

**Subject:** Elevating manufactured dwellings in flood hazard areas.

- Questions:**
1. What is the correct method of determining the elevation of a manufactured dwelling intended to be installed in a flood hazard area?
  2. Is there a different elevation requirement for manufactured dwellings intended to be installed in an existing manufactured dwelling park located in a flood hazard area?
  3. Are under-floor crossover ducts required to be elevated above the Design Flood Elevation (DFE)?

- Answers:**
1. Manufactured dwellings intended to be installed in flood hazard areas must be elevated so that the bottom of the longitudinal chassis (I-beam) is at or above the DFE. *See Figure 1 on Page 3.*  
*Note:* Anchoring requirements remain in effect.
  2. No, manufactured dwellings intended to be installed in flood hazard areas must be elevated so that the bottom of the longitudinal chassis (I-beam) is at or above the DFE despite the home being located in an existing manufactured dwelling park.  
*See Figure 1 on Page 3.*  
*Note:* Anchoring requirements remain in effect.
  3. No, under-floor crossover ducts are not required to be elevated above the DFE.



## Analysis:

1. Certain adopted specialty codes in Oregon establish the minimum requirements for elevating structures in order to protect them from flood waters. Elevation requirements in these codes have been developed to meet or exceed the Federal Emergency Management Agency (FEMA) requirements. When the MDISC was developed, the division took into consideration the flood elevation requirements in the ORSC because of the FEMA compliant provisions in that code. The MDISC, Section 3-2.4 refers users of the code to the ORSC for elevation provisions for manufactured dwelling installations.

Additionally, local jurisdictions typically adopt a flood damage prevention ordinance compliant with FEMA requirements, which incorporates by reference applicable adopted Oregon specialty codes. Model ordinance language is maintained by the Oregon Department of Land Conservation and Development.

Key elements of this issue.

- The ORSC, Section R324 requires the “lowest floor” of a site built home located in a flood hazard area to be elevated at least 12 inches above DFE.
- The MDISC defines lowest floor as the bottom of the longitudinal chassis (I-beam) and requires the installation to also comply with the ORSC, Section R324.1.8. Under this method, an additional (*unnecessary*) 12 inches is added to the bottom of the longitudinal chassis (I-beam).

This inadvertent error was created during the development of the 2010 MDISC and was missed during the code review committee process. The intent of the definition was to establish that a manufactured dwelling located in a flood hazard area must be elevated so that the bottom of the longitudinal chassis (I-beam) is at or above the DFE.

This code interpretation makes it clear that the definition of “lowest floor” in the ORSC, Section R324 and the extra 12 inches of height required do not apply to manufactured dwelling installations. This extra elevation, in some cases, may require the foundation system to be engineered, which adds substantial costs.

2. The MDISC is applicable to both new and secondary installations of manufactured dwellings located inside or outside of manufactured dwelling parks. Manufactured dwellings installed in flood hazard areas must be elevated so that the bottom of the longitudinal chassis (I-beam) is elevated at or above the DFE despite the home being located in a new or existing park, or located outside a park.

The division determined that it was irresponsible to allow manufactured dwellings intended to be installed in existing manufactured dwelling parks located in flood hazard areas to be installed so that the bottom of the longitudinal chassis (I-beam) is below the DFE. Owners or occupants of these homes should have equivalent protections from flood damage that other homes have when installed in flood hazard areas.

3. Under-floor crossover ducts are exempted from being required to be elevated above the DFE since their cost is minimal in comparison to the cost of elevating the home. Under the previous manufactured dwelling installation code, under-floor crossover ducts were not required to be elevated above the DFE.

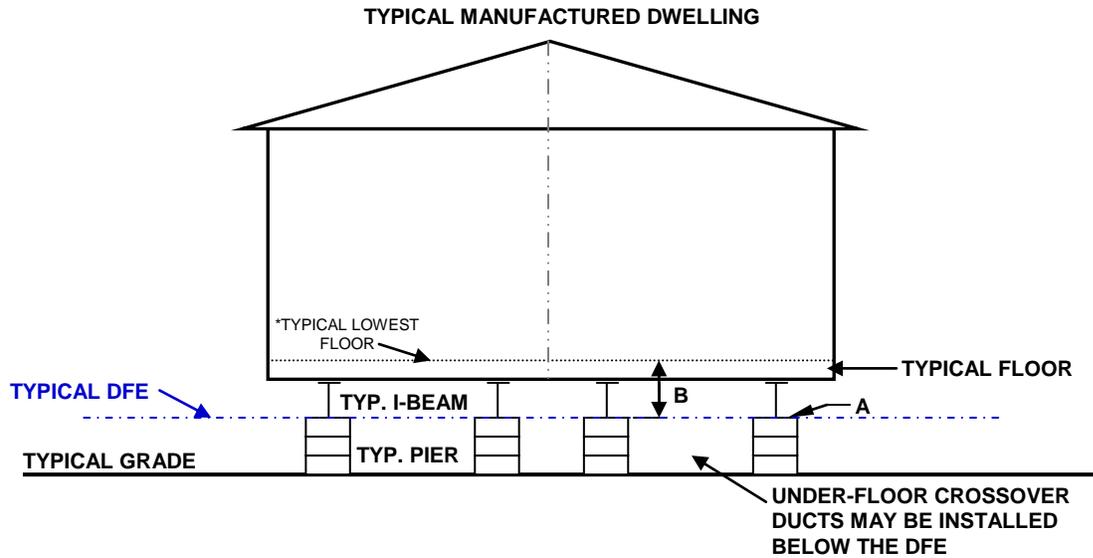
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**FIGURE 1 – ELEVATING IN FLOOD HAZARD AREAS**



**NOTE:** This code interpretation and the figure above specify that manufactured dwellings (new or secondary) intended to be installed in a flood hazard area must be elevated so that the bottom of the longitudinal chassis (I-beam) is elevated at or above the Design Flood Elevation (DFE).

– DFE is equivalent to Base Flood Elevation (BFE)

**A** = Identifies the bottom of the longitudinal chassis (I-beam) for the purposes of elevating a manufactured dwelling intended to be installed in a flood hazard area.

**B** = This dimension is provided for the purposes of demonstrating that manufactured dwellings elevated according to this code interpretation meet or exceed the minimum elevation requirements established by FEMA. The distance from the "lowest floor" to the bottom of the longitudinal chassis (I-beam) is typically about 20 inches.